

Yarmouk University

The Extent of Using Profit-Loss Sharing Paradigm in Islamic Banks in Jordan

مدى استخدام مبدأ الربح و المشاركة في البنوك الاسلامية الاردنية

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2015

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B.Sc. Business Administration, Yarmouk University, 2010

A thesis submitted in partial fulfilment of the requirements for the degree of Master of Banking and Fianance in the Faculty of Economics and Administrative Sciences, Yarmouk University, Irbid, Jordan

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Acknowledgement

I do express my thanks for my supervisors Prof. Moh'd Mahmoud Ajlouni and Dr. Demeh Daradkah for their constant guidance and support throughout the course of this work. I do appreciate their great efforts in putting my feet on the right track right from writing the proposal till the conclusion chapter of this thesis. I would also like to thank the committee members, for their time and effort in reading this thesis. Their comments have indeed improved the quality of this thesis.

Finally, I would like to thank my family for the great support they gave me.

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Abstract

The banking sector is one of the most important financial sectors in economy. The Islamic banks, from their parts, are regarded as the essential part of the banking sector which proved its efficiency in competition in the Jordanian banking sector in terms of providing banking products which go along with Islamic Shariah. The sharing principle among Islamic banks is one of the core issues that needs to be studied. Thus, the main objective of this study is to stand on the extent of applying the loss and profit sharing concept among the Islamic banks in Jordan. The data collected are the average of Islamic investment rates on Islamic banks deposits, the interest rate on traditional banks deposits and the economic varieties, Gross Domestic Production (GDP), and the foreign grants for the Jordanian government and the government expenditure in Jordan were all included. The data have been collected for the period between (2000 – 2013), they were tested through the model Philips Perron. The results show that Islamic banks are lead by the principle of the loss-profit paradigm.

Keywords: Profit-Loss Sharing Paradigm, Islamic Investment rates, Commercial deposit rates, Jordan, Mudarabah, Musharakah.

The Extent of Using Profit-Loss Sharing Paradigm in Islamic Banks in Jordan

Chapter One
Introduction

1.1 Preface

The co-existence of conventional banking and the Islamic banking gives an exceptional platform to compare Islamic banking practices with those of conventional banking practices. It is clearly known that Islamic banks are different from those of conventional banks since they do not engage with interest (Riba), i.e. usury, which is totally prohibited in Islam. The concept considered in Islamic banking is the profit-and-loss sharing (PLS) paradigm which is based on profit-sharing and joint-venture that goes with Islamic Sharia. In fact, PLS paradigm adopts the system of integration in which borrowers share profits and losses with banks and their depositors (Khan and Mirakhor, 1990). It is highly accentuated that Islamic banks can observe shocks of crises more effectively than conventional banks (Chapra, 1992) and (Khan, 1986). In this study, we will try to examine the extent of applying PLS paradigm in Jordanian Islamic banks.

Islamic banking started in Jordan in the late 70's of the last century when the Jordan Islamic Bank was the first to be established in 1978. It was followed by the Islamic International Arab Bank which was established in 1997. In 2010, the

Jordan Dubai Islamic Bank was established and in 2010, and a foreign Islamic bank called Al Rajhi Bank was established (Central Bank of Jordan Annual Report, 2013). Although there are only four Islamic banks in Jordan, Jordan succeeded in implementing a dual banking system.

1.2 Objectives of the Study

The main objective of this study is to examine the extent of applying PLS paradigm in Jordanian Islamic banks for the period from (2000-2013).

1.3 Importance of the Study

The privilege of Islamic banking provides the same services the conventional banks provide but in complaisance with the Islamic Shariah. What is more important of this study is to find out more about the profit-and-loss sharing PLS paradigm.

1.4 Methodology of the Study

This study is a diagnostic and analytical study based on examining the extent of applying PLS paradigm by Islamic banks in Jordan. In order to test it applicability in Jordanian Islamic banks, we follow Chong & Ming (2009). We shall first determine the dependent and independent variables by applying the Granger Causality Test for both changes in conventional deposit rates and

Islamic investment rates. Later on, unit roots and co-integrated tests are carried out.

Following Chong & Ming (2009), unit root tests are based on the standard Augmented Dickey Fuller (ADF) and Philips Perron (PP) procedures, and the co-integration test is done using the Johansen procedure. Once the co-integration between the two time series is established, the researcher will estimate their long-term relation and short-term dynamics on a maturity-matched basis.

1.4.1 The Data

The population of the study consists of both Islamic and conventional banks registered in the Central Bank of Jordan.

The sample of this study includes all 4 Jordanian Islamic banks which are operated and licensed by the Central Bank of Jordan. These are Jordan Islamic Bank (JIB), Islamic International Arab Bank (IIAB), Jordan Dubai Islamic Bank (JDIB) and one foreign bank, Al Rajhi Bank (RB). However, (JDIB) and (RB) are excluded from the study because they were established in the last three years; and 4 Jordanian commercial banks. These are Jordan Kuwait Bank (JKB), Jordan Ahli Bank (JAhB), Bank of Jordan (BOJ) and Cairo Amman Bank (CAB). Other economic variables were added, such as the GDP (Gross

National Product), the size of the foreign grants for Jordan, and the size of capital expenditure for Jordanian governments.

1.5 Sources of the Study

This study is based on secondary sources which include data and information collected from books, articles, previous studies, and annual banks reports and the Central Bank of Jordan reports and statistics.

1.6 Structure of the Study

This study consists of 6 chapters. Chapter two provides a review of the relevant empirical literature, while chapter three presents the theoretical background. Chapter four introduces the methodology of the data of the study while chapter five reports the analysis and explain the results. Finally chapter six summarizes the study and concludes its main findings.

Chapter Two
Theoretical Framework

2.1 Introduction

Banks have helped in improving and pushing the economic development of any country's economy which reflects positively on lenders, borrowers and many other investors. They perform various roles in the financial sector. One of the main roles for the banking industry is the Financial Intermediation. To this effect, banks are key for consumers of different sectors.

The term 'Islamic banking' means conducting of banking operations in accordance with Islamic rules and principles. Banking practices which involve the receipt and payment of interest are not compatible with the teachings of Islam. Over the last four decades, there was a need for financial solutions to meet the high demands of consumers' activities that would go in accordance with the Islamic rules and principles. According to Ajlouni 2010, he indentified Islamic banking as a financial monetary institution which runs and provides banking and financial services. It attracts fund resources and employs them efficiently in a sense these resources are developed to get the maximum income from these resources, achieving developmental, social and economical objectives according to the Islamic principles.(Ajlouni, 2010, P. 110).

Islamic banks have worked back to back with the conventional banks, but they adopted a different banking system in terms of borrowing and lending facilities. It has been noticed over the last few decades that Islamic banks have proved

themselves in the market, especially in the global financial crisis in 2008 in which many giant conventional banks with a very long history failed. “Islamic banking is phenomenally profitable although its underlying funding mechanism is the same as conventional banking, its default experience is better, and its charges higher and less transparent” (Cook, 2006, p.16). Other banks, however, have adopted dual banking system in a sense that Islamic banks work side by side with conventional banks.

An Islamic bank is an intermediary and trustee of other people’s money and it shares profit and loss with its depositors and interests. In practice most Islamic banks have an organizational set-up very matched and similar to their conventional counterpart banks (Dar and Presley, 2000).

Islamic banks are interpreted as financial institutions which base their whole "loan" business on the principle of Profit and Loss Sharing (PLS) with the entrepreneurial partners (Nienhaus, 1983, p. 31). An Islamic bank is a financial and social institution whose aims, principles and practices comply with the Shariah rules, and which must avoid charging interest in any of its practices (Ahmed, 2004).

2.2 The Principles of Islamic Banking

The principles of Islamic banking are based on the basis of Shariá law (Islamic rules and regulations) which forbids payment or receipt of Riba – the payment or receipt of interest (Obaidullah, 2005). Akacem and Gilliam (2002), from their

part, mention the existence of equity-based profit and loss-sharing mechanism instead of interest-based operations as the basic principle of Islamic banks. Meanwhile, Choudhury and Hussain (2005) indicate two basic principles of Islamic modes of financing as being interest-free and being dependent upon the cost and profit sharing. These financing principles are monitored and controlled by Islamic rules on transactions which follow profit and loss sharing (PLS) and non-PLS paradigms. There are many restrictions on Islamic banks such as the use of derivative products (Obaidullah, 2005).

2.3 Differences Between Islamic and Conventional Banks

Islamic banks share some of the financial services and transactions as for those of the conventional banks and other financial institutions. However, there are core differences in the financial services and transactions between Islamic and conventional banks. Beck et al. (2010) show little significant differences between conventional and Islamic banks in business orientation. Conventional banks are more cost-effective and less-stable when they have lower market shares than their Islamic counterparts, whereas Islamic banks display higher capital-asset ratios. The researcher, who has been working in the Islamic International Arab Bank as a credit officer, lists the following differences based on his professional experience in Islamic banking system:

1. Islamic banking is interest-free banking.
2. Islamic banks grants funds on the basis of profit-loss sharing paradigm since it is shared between the bank and the clients.
3. Islamic banks have highly selected procedures in choosing the potential clients since they have limited investment chances.
4. Islamic banks share high risks in terms of assets and commodities which lead to high cost on finances. This goes with the main principle of finance 'high risk, high return'.
5. Islamic banks have no fixed interest rates, but these rates are paid on profits and losses made by financial transactions.

According to Ajlouni 2010, he classified the similarities and differences between conventional and Islamic banks as follows (Ajlouni, 2010, PP.119-124):

2.3.1 Main Similarities Among Islamic Banks

1. Islamic banks agree with the conventional banks in terms of their functions in a sense that each group work as a financial intermediary between savers and investors.
2. Islamic banks agree with the conventional banks in terms of some financial services, such as money transfer, debts collection, leasing safe deposit boxes, checks' issuing and stock underwriting.

3. Islamic banks agree with conventional banks in terms of current demand deposits based on free interest loans. In such a case, the exact amount of loan is returned back to the bank. What distinguishes this service are the checks' issuing, Automated Teller Machine cards ATM, and issuing credit cards.
4. Islamic banks agree with conventional banks in terms of investing in stock markets without bonds.
5. Islamic banks and conventional banks are controlled under the surveillance of the Central Bank.

2.3.2 Main Differences Among Islamic Banks

1. The financial intermediary for the Islamic banks is based on PLS principle, whereas this principle for the conventional banks is based on an interest based system.
2. Investment takes the most part in Islamic banks, such as Murabaha, Musharakah and Ijarah, whereas lending is the main importance for the conventional bank.
3. Islamic banks' performances are framed within the Shariah law to make sure Shariah law in addition to the surveillance of the Central Bank. Conventional banks, however, are only observed financially by the Central Bank.

4. Islamic banks need to own the fixed and moveable assets, whereas the conventional banks are prevented from such possession so that their funds are not frozen.
5. Some financial services at the Islamic banks require trading commodities, whereas these services are not allowed at conventional banks for monopoly purposes.

2.4 The Concept of Profit and Loss Share Paradigm

Islamic banking system bans Riba (Usury) in all of its financial services and transactions that facilitate the economic system. Despite the fact that conventional banks have no restrictions on price of their products by offering alterative financial solutions, Islamic banks are growing and expanding rapidly in the world. Conventional banks accept deposits and offer loans which are based on interest, whereas Islamic banks accept deposits and offer loans, but invest them in accordance with Shariah laws (interest-free based system). In other words, the system adapted by Islamic banking is the profit and loss sharing (PLS).

"PLS is a contractual arrangement between two or more transacting parties, which allows them to pool their resources to invest in a project to share in profit and loss" (Dar and Presley, 2000). Islamic banks are interpreted as financial institutions which base their whole "loan" business on the principle of (PLS) with the entrepreneurial partners (Nienhaus, 1983, p. 31). From the definitions

above, the PLS is a partnership between the bank and clients based on contractual concepts of Mudarabah and Musharaka.

Mudarabah and Musharakah are two financial instruments based on PLS method that eliminates a fixed rate of return (interest rate) from financial operations and participates financers into the profit and loss of investment activities (Rammal and Zurbruegg, 2007).

2.5 Mudaraba and Musharakah

According to the definition of Usmani (2002), "mudarabah is a kind of partnership where one partner gives money to another for investing in a commercial enterprise. The investment comes from the first partner who is called Rabbul-Maal (Investor) while the management and work are exclusive responsibility of the other, who is called Mudarib or Rabbul-Amal (Working Partner) and the profits generated are shared in a predetermined ratio." Musharaka is "a joint enterprise in which all the partners share the profit or loss of the joint venture. It is an ideal alternative for the interest based financing with far reaching effects on both production and distribution" (P.17, 31).

It is clear from the above definitions that Mudarabah is a combination of two parts, the bank and the client in a sense that the former manages the investment according to its professional expertise and the latter shares with money. In case of profit, the total amount is divided between the two in certain proportions. But in case of loss, the bank loses its efforts and the client loses his/her money. In

the Musharakah, both the bank and the client share the capital invested and the profit and loss are shared between the two parties. These proportions which are distributed among clients are called Islamic investment rate that goes in accordance with interest free system.

2.6 Resources of Funds in Islamic Banks

Islamic banks like any other financial organization work on collecting funds which are regarded the central supporting liquidity and invest them in accordance with the Islamic Shariah. They follow a clear Islamic policy in which they depend on internal and external resources. El-Seoudi et al. (2012) classify the resources of Islamic finances into two kinds: internal and external. As for the internal resources, they divided them into three main finances: the capital, reserves and retained earnings. The following is a short briefing on each of these sources:

(a) Capital is the paid-in capital paid by the bank's owners, shareholders. It works as an insurance element of finance and the safety line which protects Islamic banks from losses that may happen in the future. Capital is a reliable and trust worthy essence for depositors (Al-'Awadi, 1999).

(b) Reserves are those funds which are set aside from profits to support the financial position of the bank. According to the legal reserve formation, reserves are frozen when they reach the ceiling of a particular ratio from

the capital of the bank. It is highly noticed that reserves are categorized differently at Islamic banks to protect their capitals and keep on the values of their depositors along with their earnings (Shihaatah,1977).

(c) Retained earnings are those funds which refer to the proportion of the net profit retained by the bank. These earnings are the shareholders portion of the profits which are not distributed to shareholders regularly (Abdel Haadi, 1985).

According to El-Seoudi et al (2012), the other type of fund is the external funds which are divided into three main sources: current accounts, saving accounts and investing accounts. Some external funds of Islamic banks include Islamic investment bonds (Sukuk), accounts covering fund, financial guarantees, credit cards, insurance letters, charities, services and grants (Ajlouni, 2012, p.173). The following is a short briefing on each of these sources:

(a) Current accounts are those accounts for the deposits of customers based on free interest loans. The key merit of these deposits is the unconditional claim for full repay of the main amount. These accounts have no income. Deposits considered the main source of external funds for banks (Yusoff and Wilson 2005, P.33).

(b) Saving accounts are those accounts which are saved the bank and requested and can be withdrawn upon depositors' request. Zineldin, M. 1990, from his part, saving account scan have income or earnings in

which these funds can be invested in a short term investment, noting that these funds can withdrawn upon request. These deposits are guaranteed by governments in a sense that the profit is not guaranteed since saving deposits are not subjected to risks in case of loss (Zineldin, 1990, p.70-71).

(c) Islamic investment accounts or specific bank investments: Islamic banks accept cash deposits from depositors for specific investment in particular project upon a contract between the bank and the depositor. This is based on Mudarabah in which the bank invest these deposits according to the contract terms depositors' guarantee. In case of profit, it is distributed among depositors and the bank on the agreed rations. Whereas in case of loss, it is born by the depositors proving that the bank is doing its best (Al Malqi, 2000, p239).

(d) Financial Institution Deposits: based on the coordination among Islamic banks, some of those Islamic banks invest excess funds in other Islamic banks which have shortages in cash liquidity. These funds are deposited either in investment deposits which have unstable or variable return or current account without return (Al Musawi 1995, p42).

(e) Certificate Deposits are considered intermediate fund resources in Islamic banks in which those certificates are issued in different categories to suite the income of depositors. The duration of these certificates is between 1 – 3 years. The funds of those certificates are used in financing intermediate

projects in which the profits are distributed monthly or at the maturity date (Ahmed, 2001 p 352).

(f) Mutual Funds are those funds which meet the demands of depositors throughout investing their funds in internal and external areas of business which have lucrative profits. The bank chooses one of the local or investment areas and sets up monetary for public offering for investors. The bank, in return, shares a percentage of the profits for managing these mutual investments (Al Hussni, 1999 p 24).

(g) Unit Investment Trust is one of the key investment services in which funds are collected from clients in form of administrative services that can be invested in financial markets. The bank shares a fixed profit rate (Al Musawi1995, 43).

It is clear from the above that there is no key difference between the internal sources at conventional and/or Islamic banks. Whereas for the external resources, there is a key difference between the relation of Islamic investment holders and Islamic banks in which the client bear the whole losses.

2.7 Uses of Funds in Islamic Banks

Islamic banks invest their funds according to Shariah rules. One of these investments is lending, in which the bank shares a part of their losses.

1. Mudarabah: it is a joint partnership between the bank and the client in which they agree on profits distribution in a proportionate manner. In

case of loss, the capital owner loses his/her fund and the bank loses its efforts (Abu Zaid, 2008, p 138).There are two kinds of Mudarabah: (a) Absolute Mudarabah which is not restricted within a time, place, or type of business. This kind of Mudarabah is bounded with two key factors: the sake of two partners and the traditional commercial norm (Al Malqi, 2000, p 304); and (b) Restricted Mudarabah in which the capital owner is restricted by investing their money in certain area of business in a certain location (Al Refaie, 2004 p 126).

2. Musharakah: it is a capital partnership between the Islamic bank and the borrower in which the two parties contribute in the capital. The profit is distributed according to agreement, while the losses are distributed among the bank and the borrower according to the percentage of the capital provided by each party (Kamal, 2001 p 81 – 82). (Ajlouni 2010 PP.223-224) from his part, indentifies Musharakah as a contract between two parties or more, based on sharing funds together to do certain businesses to make profit which is shared between the two of these parties. This contract does not require that each party should have equal shares between the capital and the effort. It does not require also having equal profits between them. In case of loss, it is divided according the amount of money shared between the two parties.

   Musharakah Forms According to Investment Contract Life (Ajlouni, 2010, PP.230-231):

1. Short Term Musharakah: it is such sharing in a normal transaction. This kind of finance is a temporary financing which ends when the transaction is over.
2. Long Term Musharakah: it is a fixed long term financing, such as sharing in financing projects assets.
3. Musharakah Muntahia Bittamleek (MMB): it is long-term partnership in which the share of a bank is reduced over time until the borrowed full is full paid back to the bank. The partnership contract is then ended.

3. Murabaha: it is considered the most important financing channels and mechanisms in Islamic banks. Imtiaz (1990), identified Murabaha as the agreement between the bank (seller) and the client (buyer). The bank buys goods which are decided by the client and then the bank sells to the customer in instalments on a fixed profit that can be added to actual price of the goods. The customer should know the first price of the bank's profit.
4. Ijarah (Leasing): it is an agreement between the bank and the client. The former possesses the assets and the latter rents it on an agreed rental period (Usmani, 2002). Ijarah can be divided into two types: operating lease and financial lease.

4.1 Financial Lease (Ijarah Maleyeh): it is an agreement between the bank and its client in which the former purchase a capitalization asset to rent

for the latter. The duration of rental is usually equal to the asset life conditioning that the client has to bear the cost of maintenance for the rented assets. The lessee has no right to terminate the contract before the maturity date. The income from the asset rental is to pay off the actual cost of the asset in addition to the profit. According to this kind, the lessee has the right to possess the asset (Hasan, 1996 p 16).

4.2Operational Leasing (Ijarah Tashghileeh): this kind is based on assets rental for the lessee to do a specific task. The rental period is lesser than the asset life in which the bank and the client bear the expenses of maintenance for the asset. According to this kind, the lessee has the right liquidate the contract with the bank, and in this case, the client does not have the right to possess the asset (Abu Sulieman, 1992 p 99).

5. Future Sales Contract and (Bai Bi Thaman Ajil), Purchase with Deferred Delivery: future sales contract is an agreement between two parties, namely the bank and client, in which the former pays the cost of the production goods in deals, whereas the latter gives the good(s) deferred based on accede of the two parties. This kind of financing can be used in Islamic banks to fund different trades in which the trader gets the money from the bank immediately and hands in the goods at a later agreed time (Ajlouni, 2010, P.259).

6. Manufacturing (Istisna'): it is a contract between two parties in which the (manufacturer produces certain things for the other party. "Although

similar to bai bi-thaman ajil transactions, istisna' offers greater future structuring possibilities for trading and financing. One party buys the goods and the other party undertakes to manufacture them according to agreed specifications. Islamic banks frequently use istisna' to finance construction and manufacturing projects." (Hassan and Lewis, 2007, P. 53).

2.8 Risks in Islamic Banks

Islamic banks, like any other financial institution, face risks in their financial transactions, but they differ in a sense that they face risks in compliance with Shariah (Ahmed and Khan, 2001). To this effect, for the importance of this research, Islamic banks face financial risk. This type of risk is related to main types: credit risk, market risk, and liquidity risk.

1. Credit Risk: according to Joseph (2006), credit risk is "a transaction between two parties in which one (the creditor or lender) supplies money or monetary equivalent goods, services, etc., in return for a promise of future payment by the other (the debtor or borrower)." Abdulrahman and Shahimi (2010) in their study highlight that the Islamic contracts face credit risk such as the financial contracts in Murabaha in which the assets are given to the clients without receiving the agreed amount in time. The risk would be higher in case the client refuses to receive the asset(s) owned by the bank. Another example is the risk exposure in Mudarabah

contracts which the employer may not be competent or expert in managing or marketing the products of the project. As for the contracts related to Istisna'a, the risk is among deciding the type of good production and the invalidity of the products. Ijaarah leasing contracts is considered a risk property since the rented asset in this case is for the possession of the bank. The risk might occur here when the goods are damaged, expired or reduced its real cost which the bank in this case cannot return it back to the tenant.

2. Market Risk: According to (Chapra and Khan, 2000 p.55-56) say that the market risk consists of interest rate risk and exchange rate risk. Islamic banks are indirectly affected with this kind of risk through the pricing of the deferred sale and lease transactions. What is more important is that the profits which are to be paid on deposits by the Islamic banks have to meet the changes in the market rate of pricing. In other words, Islamic return transactions are exposed to the mark-up price risk.
3. Liquidity Risk: liquidity risk is considered as one of the challenging risks that face Islamic banks. It is the mismatch between maturity of assets and liabilities in a sense that the former are mainly of a medium and long term type and the latter is a short term type. It is the main dilemma in which the bank cannot meet the immediate payment requests. This leads the bank sometimes in selling its financial assets in lower prices than the real market value (Ruozi, Ferrari, 2013, p. 4). Since Islamic banks cannot rely

on traditional sources of cash such as loans from other banks on the central bank, they have to hold excessive liquidity.

2.9 Islamic Banking in Jordan

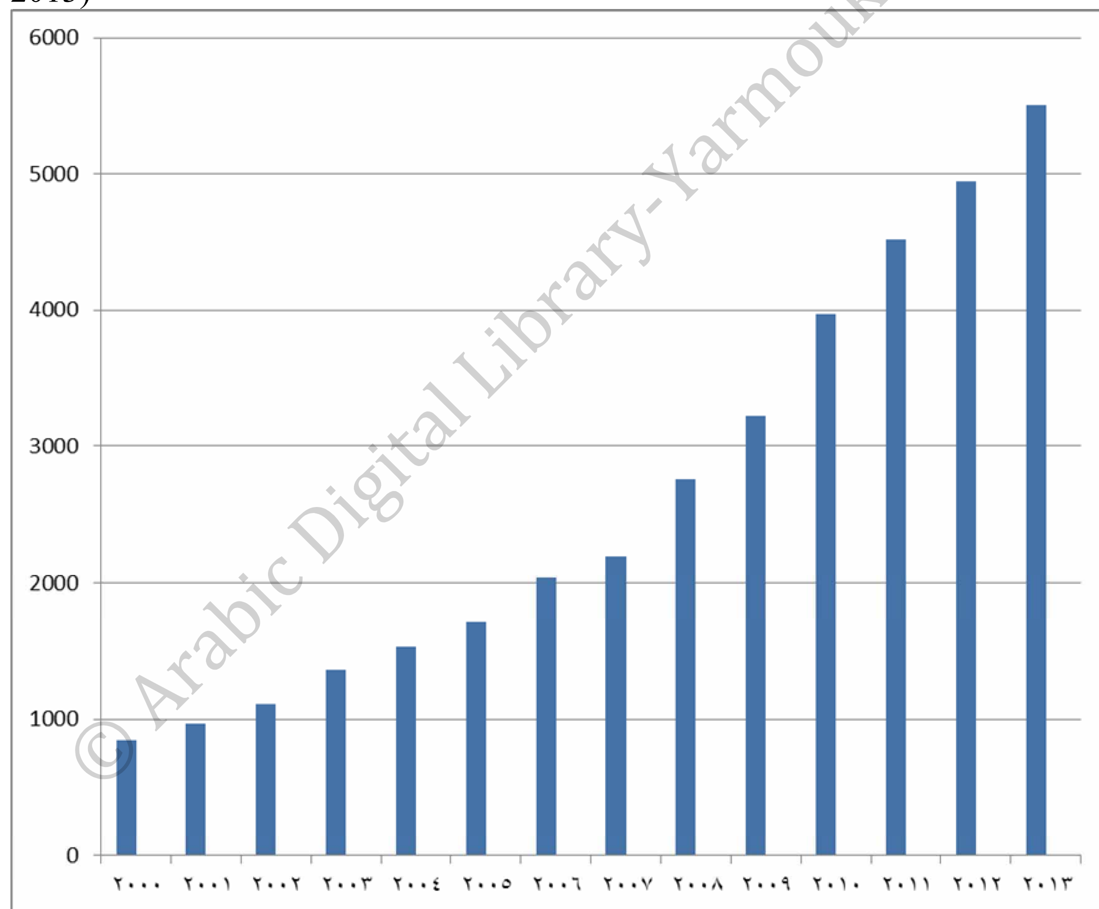
Islamic banking was implemented in Jordan with the presence of the Jordan Islamic Bank when it was the first to be established in 1978 in Jordan, followed by the establishment of the Islamic International Arab bank which was established in 1997. In 2010 Islamic banking sector was more dynamic when the Jordan Dubai Islamic Bank was established and in 2010, a foreign Islamic bank called Al Rajhi Bank was established, but operated at the end of March 2011 (Central Bank of Jordan Annual Report, 2013)..

Islamic banks have proved their active role in Jordanian banking sector. They were able to attract a lot of clients and investors who contribute to the increase in the deposit volume for the Islamic banks, something which enabled them to invest these funds according to Islamic manners. That has led to the increase of Islamic assets which reflect the positive effect on the economic level through implementing Islamic system in investment. Jordanian banking sector consists of 26 banks, 13 of which are local commercial banks, 4 are Islamic banks (three local and one international), and 9 are foreign banks (Source: Central Bank of Jordan).

The growth in the Islamic banking sector in Jordan was rapid in the 20th century. Figure (2-1) shows the growth in total assets of Islamic banking sector during the period (2000 – 2013).

Figure (2-1)

Total assets (in million JD) under Islamic banking in Jordan during the period (2000 – 2013)



Source: financial data for Islamic banks in Jordan (JIB, IIAB, JODIB, RB), statistical reports from the website of the Central Bank of Jordan.

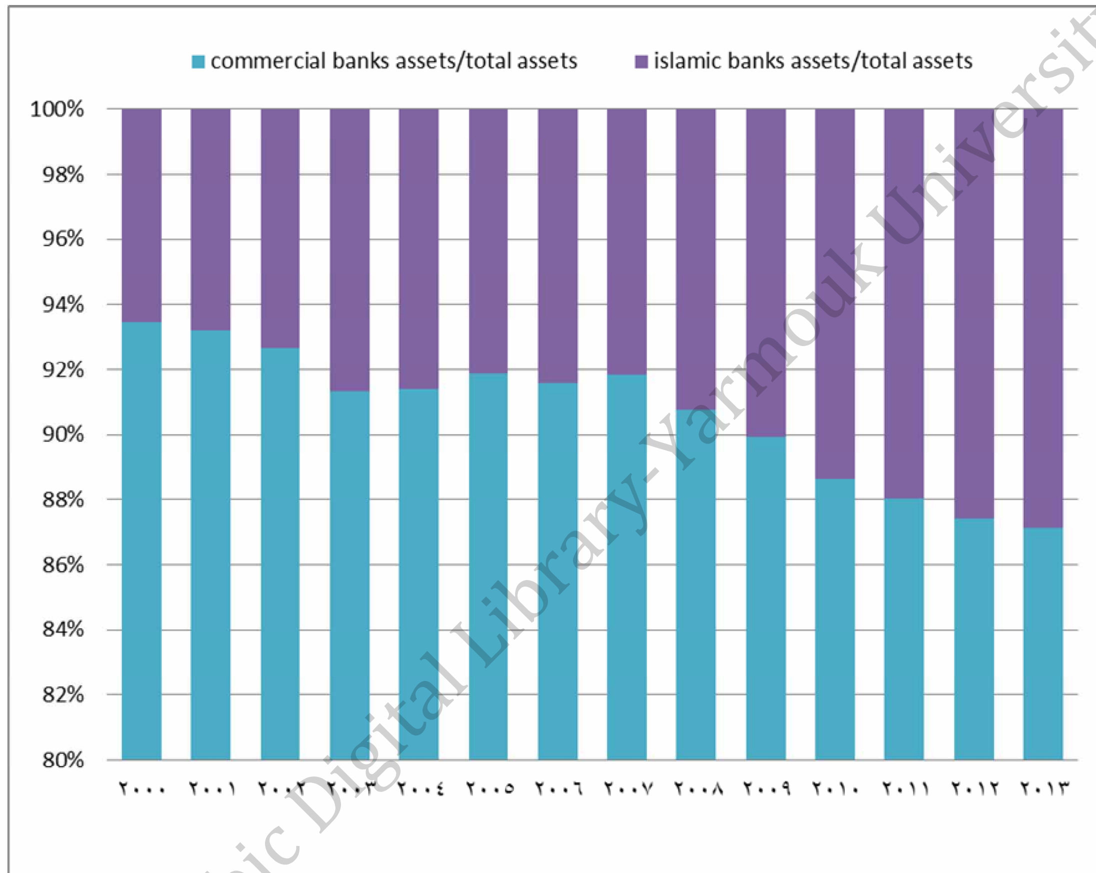
This figure shows a noticeable increase in assets volume for Islamic banks in Jordan. The assets of Islamic banks in 2000 were around 846 million JD, increased over the period of 13 years to 5506 million JD in 2013. The assets of

Islamic banks increased five times during that period. The reason behind the increase of Islamic banks was that banks doubled from two banks in 2000 to four banks in 2013. That is in addition of providing banking services that go with Shariah laws. The most important reasons which enabled Islamic banks were to pass the global financial crisis 2007.

Figure (2-2) shows the market share of Islamic banking assets in the banking sector of Jordan. It represents the distribution of assets of banks in Jordan between commercial banks and Islamic banks for the period (2000 – 2013).

Figure (2-2)

Distribution of assets of banks in Jordan between commercial banks and Islamic banks during the period (2000 – 2013)



Source: financial data for banks, statistical reports from the website of the Central Bank of Jordan.

Figure (2-2) shows the growth and increasing market share for Islamic banks as it is compared with commercial banks assets. The total assets of the Jordanian banking sector reached amounts to 12914 million JD in 2000, increased to 42803 million JD in 2013. Islamic banks show increased from less than 7% in 2000 to more than 13% in 2013.

Table (2-1) provides the amounts of Islamic financing and Islamic deposits in Jordan as of the end of 2013.

Table (2-1)
Islamic Banking System in Jordan – Financing and Deposits as the end of 2013

Bank name	Total Islamic financing		Total Islamic deposits	
	Million JD	%	Million JD	%
JIB	2495	65%	2958	62%
IIAB	642	17%	1156	24%
JDIB	413	11%	383	8%
RB	284	7%	296	6%
Total	**3834**	**100%**	**4793**	**100%**

Source: annual reports for Islamic banks year 2013.

Table (2-1) shows that the total of investment and finance for Jordan Islamic Bank was 2495 million JD, represents of 65% of the total Islamic finance. Compared with Islamic International Arab Bank 642 million JD, represent 17% of the total Islamic finance in Jordan. Jordan Dubai Islamic Bank was 413 million JD, represents 11% of the total Islamic finance in Jordan, and Al Rajihi Bank was 284 million JD, represents 7% of the total Islamic finance in Jordan.

As for the deposits, the value of the total deposits of Jordan Islamic Bank was 2958 million JD in 2013, representing 62% of the total Islamic deposits in Jordan. Islamic International Arab Bank came in the second place in the total deposits of 1156 million JD, representing 24% of the total deposits of Islamic banks. Jordan Dubai Islamic Bank came in the third place in the total deposits of 383 million JD, representing 8% of the total deposits of Islamic banks. Al

Rajihi Bank came in the last place in the total deposits of 296 million JD, representing 6% of the total deposits of Islamic banks.

The reason behind these results is that Jordan Islamic Bank was the first established bank in Jordan and had been in the market for 20 years just before the Islamic International Arab Bank was established in 1997. Other two banks were established in 2010.

2.10 Summary

It has been focused in this on the definitions of Islamic banks and the main significant roles which perform in financial sectors. It has also focused on the key principles of Islamic banks which are based on Shariah's law. The differences and similarities between Islamic and conventional banks has been identified and explained briefly. Moreover, the study has identified the resources of Islamic banks and its uses in several investments used in different Islamic contracts. The risks accompanied with the Islamic banks along with their services. Finally, this study has accentuated on the Islamic banks in Jordan.

Chapter Three
Literature Review

3.1 Introduction:

This chapter focuses on previous studies which are done on Islamic banks at a national and international level. It consists of studies that are done on Arab and foreign countries in which these studies tested some aspects of the Islamic banks, such as the efficiency, profitability, profit-loss sharing and empirical analyses of Islamic banks in comparison with conventional banks. The studies in this chapter are taken from Jordan and other countries.

3.2 Previous Studies

3.2.1 Literature in Jordan and Arab World

1. **Ajlouni and Omari (2013)** evaluate the 'Performance Efficiency of the Jordanian Islamic Banks using Data Envelopment Analysis and Financial Ratios Analysis'. They examine and analyze the technical efficiency of Jordanian Islamic banks performance during 2005-2009. The study compares between two Islamic banks: Jordan Islamic Bank for Finance and Investment, and Islamic International Arab Bank in Jordan. The study uses two tools: Data Envelopment Analysis (DEA) and Financial Ratio Analysis (FRA). The results show that there are no differences in efficiency levels of Jordanian Islamic banks and they are constantly efficient in using their inputs producing actual outputs.

2. **Siraj and Pillai (2012)** assess the expense operation, assets, operating income and deposits for Islamic banks in their study "Comparative Study on Performance of Islamic Banks and Conventional Banks in Gulf Cooperation Council (GCC) Region". They investigated the operation of six Islamic and six conventional banks in GCC during 2005-2010. They find that the tested Islamic banks have higher Return on Assets (ROA) and Return on Equity (ROE) than conventional banks. Considering the speed of development of operating income at Islamic banks, it was also higher than operating income at conventional banks.

3. **Alemu (2012)** in his study "Factors Influencing Consumers Financial Transactions in Islamic Banks Compared with Conventional Banks: Empirical Evidence from Selected Middle-East Countries with a Dual Banking System", answers two questions: (a) what are the main factors that motivate individuals to choose either Islamic bank or conventional bank? (b) what are the main attributing factors to customers overall level of satisfaction with the services provided by Islamic banks compared to conventional banks in UAE, Jordan, and Bahrain? The study tests the hypothesis of "religious factors are still much important but not the only ones for consumers choice to Islamic banks and ultimately to their satisfaction". The study sample consists of 322 bank customers that selected randomly from Bahrain, Jordan, and UAE. It gathers sampling

surveys based on the questionnaires designed for the three countries in which oral interviews were conducted. The researcher analyzes the data by using Linear Probability Model (LPM), Tobit Estimation Method (TEM), and Ordinal-Logistic Regression (OLR). The results show that religious factors are still much important, but they are not the only factors which can be used by customers to choose Islamic banks rather than conventional banks. Other additional factors include better quality of services and information disclosure which play an important role for the growing demand in Islamic banking. On the other hand, factors, such as better rate of return, accessibility to credit, and SMS banking are found to be the main significant determinants of customers' choice as well as satisfaction using conventional banks rather than Islamic banking services.

4. **Srairi (2011)** in his study "Productivity Growth in the GCC Banking Industry: Conventional versus Islamic Banks" highlights on the impact of financial liberalization in the (GCC) countries. He compares between commercial banks in GCC states. The sample of the study consisted of 71 banks from six Gulf States and put them to two subsets: Islamic banks and conventional banks by using their data between 1999 - 2007. To analyze these data and measure the productivity, the study uses Data Envelopment Analysis (DEA). The results show that a rise over time in

productivity for the two types of banks with conventional banks exhibiting higher productivity change than Islamic banks.

5. **Saleh and Zeitun (2007)** in their study "Islamic Banks in Jordan: Performance and Efficiency Analysis" investigate and accentuate the two Islamic banks in Jordan: the Jordan Islamic Bank for Finance and Investment (JIBFI) and the Islamic International Arab Bank (IIAB). The main point of their study was to assess the performance of these two banks along with their local and international challenging factors which affect the core of their business in a highly competitive market. These factors are related to foreign investment banks, conflict in the region, and most importantly the high advance technologies. The data used in their research selected between (1998 – 2003) including the profit maximization, capital structure and liquidity tests. They find that the efficiency and capability at these banks increased. What is more important in their study is that these banks highlighted on short-term investments applied through the Islamic Shariah. The study has found that the efficiency and profitability of those two banks had increased in which an expansion in their investments and activities played key roles in funding major projects in the local market, mainly industry. It was also proved that those Islamic banks have made a real development in funding facilities and profitability for local businesses. The focus on the short-

term rather than the long-term investments at those two banks led for many opportunities to have a progress in the financial market.

6. **Saleh and Zeitun (2006),** in their study, "Islamic Banking Performance in the Middle East: A Case Study of Jordan" measure the Islamic banks' performance in Jordan by examining and analyzing the experience of the Jordan Islamic Bank for Finance and Investment and the Islamic International Arab Bank. The study, which conducted profit maximization, capital structure, and liquidity tests as performance evaluation methodology, accentuates on the local and international challenges faced by this sector. As for the results, they were wonderful; the potential for both banks have increased their investments as the outfits were enlarged. Not only this, both banks have been able to fund projects in Jordan based on funding short-term investments. Finally, these banks have grown and established themselves in deals and facilities in the market.

7. **Samad (2004)** in his study "Performance of Interest-Free Islamic Banks vis-à-vis Interest-Based Conventional Banks of Bahrain" examines the comparative performance of Bahrain's interest-free Islamic banks and the interest-based conventional commercial banks during the post Gulf War period (1991-2001). He uses financial ratios to measure the

performances. These are profitability, liquidity risk, and credit risk. The paper concludes that there exists an important difference in credit performance between the two groups of banks Islamic and conventional banks. The study finds no big difference in profitability and liquidity performances between Islamic banks and conventional banks.

3.2.2 Foreign Studies

1. **Rafi and Masih (2014)** in their study "Are Islamic Banks Truly Shariah Compliant? An Application of Time Series Multivariate Forecasting Techniques to Islamic Bank Financing" examine the Shariah compliant principles of Islamic banks by using Time Series Multivariate Forecasting Techniques to test the correlation and direction of causality between Interest rates and Islamic banks financing. The study measures changes in Kuala Lampur Interbank Offer Rate and tests them for correlations and directional causality with the Islamic Malaysian bank ending rate. Data selected were quarterly for the period (1999-2012). They used the following variables: Consumer Price Index (CPI) and Gross Demotic Product (GDP) for Malaysia. Quarterly data for Lending Rate for Malaysia. Quarterly aggregated data for asset-side financing of all Islamic banks in Malaysia for 2 Malaysian Islamic banks and 16 Islamic windows and foreign-owned Islamic banks. They analyzed data by using eight steps of Time Series Multivariate Forecasting are covered in this

research: Unit Root test (ADF and PP), VAR, Co-integration test (Engle-Granger and JJ), LRSM (Exact identification and Over identification), VECM, VDC (Generalized and Orthogonal), IRF and, PP. The results showed that lending rates set by BNM, Granger-cause financing by Islamic banks in Malaysia, showed that are Islamic banks in Malaysia not complied with Shariah principles.

2. **Soylu and Durmaz (2013)** examine the 'Profitability of Interest-Free VS Interest-Based Banks in Turkey'. They examine whether interest free banking is consistent with sustained bank profitability on the assumption that profit is an indicator of ability to operate efficiently and effectively according to economic rationality. The study compares between 40 banks in Turkey, thirty two are traditional interest charging institutions and eight do not charge interest (interest free) during the period 2002 - 2008. The study uses rate of Return on Assets (ROA) as a measurement of bank profitability. The results show that interest-free banks had positive and reasonably strong rates of profitability through their level of profitability which was somewhat less than that of traditional banks contrary to their initial prediction.

3. **Ergec and Arslan (2013)** analyzed the impact of interest rate in their study "Impact of Interest Rates on Islamic and Conventional Banks: The

Case of Turkey" examines and analyzes the impact of interest rate of deposits and loans for Conventional and Islamic banks in Turkey. The study analyzes the response of the deposits and loans held at conventional and Islamic banks to interest by utilization monthly data for the period 2005 – 2010, based on Vector Auto Regression (AR) methodology. The results show that any change in the interest rate effects not only the deposits and loans of conventional banks, but also the instruments of Islamic banks.

4. **Astrom (2012)** in her PhD thesis "Risk Analysis for Profit and Loss Sharing Instrument" examined the hypothesis that profit and loss sharing instruments are mudarabah and musharakah in the Middle East and North Africa. The aim of her work is to make analysis for each type of extra risks contributing to mudarabah and musharakah. To answer this hypothesis, detailed information about mudarabah and musharakah instruments is shared and then the current profit and loss sharing applications of Islamic banks are analyzed. Finally, asymmetric information, credit risk, rate of return risk and withdrawal risk are analyzed through risk management processes which are risk definition, measurement and mitigation. While doing this, both quantitative (such as econometric analysis) and qualitative (such as factor identification) methods are used.

The methodology of the research was based on the basic reason which causes lack of PLS and Shariah compatibility problems for partnership applications in Islamic banking is the extra risks inherent to them. The researcher tested this hypothesis by using quantitative and qualitative data. The former analysis is based on the Islamic bank reports and surveys along with diagrams and tables. The latter is based on research methods such as observations and interviews. The conclusion of this thesis is that each type is redefined, risk factors are identified, new measurement approaches are provided and risk mitigation techniques are suggested for mudarabah and musharakah instruments.

5. **Ibrahim et al (2012)** in their study "An Empirical Analysis on the Operational Challenges of Interest Free Banking Window in Nigeria: A Case of Keystone Bank Limited in Nasarawa State" examined and analyzed the operational challenges of interest-free banking with conventional banking in Nigeria. The study was based on field survey and used two sets of structured questionnaires. There were 150 respondents of keystone bank limited in Nasarwa State. The results concluded that religion, financial literacy, manpower, competition, moral hazard and legal framework are significant constraints on the operation of interest-free banking sector.

6. **Cevik and Charap (2011)** in their study "The Behavior of Conventional and Islamic Bank Deposit Returns in Malaysia and Turkey" examine the behavior of conventional bank deposit rates and the rate of return on Islamic bank deposit that implement profit and loss sharing investment accounts in Malaysia and Turkey by using monthly average data on conventional and Islamic deposit rates in Malaysia and Turkey for period 1997 – 2010. They test the data by using four econometric tools: Co-integration between returns on conventional and Islamic deposits, and the Vector Error Correction Model VECM approach to analyze the impulse response function to identify inter-temporal linkages between variables and an investigation of the correlation of volatility between the two types of deposits. The results show that profit loss sharing (PLS) returns and conventional banks deposit rate exhibit co-integration over the long run, and the rate of return on PLS investment accounts closely follows the behavior of interest rates provided by conventional banks.

7. **Khan et al (2011)** in their study "Analysis of the Performance of Islamic and Conventional Banks in Pakistan" examined the performance of banking system in Pakistan, Islamic banking (interest-free banking system) and conventional banking (interest-based banking system). They compared between them to know which banking system is more profitable. The study compared between four banks in Pakistan: Two

Islamic banks and two conventional banks. The data selected were for the period 2006 - 2009. They used financial ratios to measure the performance of the sample. The results showed that Islamic banks have performed better than conventional banks since they are as profitable as conventional banks.

8. **Arslan and Ergec (2010)** in their study "The Efficiency of Participation and Conventional Banks in Turkey: Using Data Envelopment Analysis (DEA)" ran a research on the comparison of performances of banks operating through interest-free based system with conventional banks. They emphasized on the efficiencies of 26 private banks which applied the interest based lending and four Islamic banks in 2006 and 2009 using (DEA) method. The results revealed that while 3 out of 10 banks, identified inefficient in 2006, were participation banks, and other 20 banks are efficient 1 of them participation bank and 19 conventional banks, in 2009, only 1 out of 11 banks, identified inefficient, were participation bank and 8 conventional banks.

   The researchers used financial ratio to measure the performance of the selected banks and the relationship between the two variables selected to expose the different aspects of banks activities, such as liquidity, profitability, capital adequacy, asset quality and risk management.

The efficiency of the banks for 2006 and 2009 years was analyzed. Going through the results during the period (2006 and 2009), they measured the turn-over assets ratio in the selected banks during this period. 26 interest-based banks and 4 interest-free banks were used in decision making units. The results of the study showed that when the interest-free based banks were given the same regulations and rules of those the interest-based banks, they performed better. The result showed that there was only one interest-free bank which was ranked as efficient. The efficiency rates raised up to 3 in 2009 by 75% of Islamic banks were efficient. It is clearly seen then that interest-free based banks performed better than those of interest-based banks.

9. **Chong and Ming (2009)** in their study "Islamic Banking: Interest-Free or Interest-Based?" examined the implementing of PLS paradigm in Malaysian Islamic banks. The studied and compared between two sets of financial institutions. These were Islamic banks and finance companies (interest-free), and commercial banks and finance companies (interest-based). The data of the study was monthly series of Islamic investment rates and conventional rates for all financial institutions for the period (1995-2004). The study used unit roots tests based on the Standard Augmented Dickey Fuller (ADF) and Philips Perron (PP) procedures. The results showed that there was no difference between both Islamic and

finance companies from one hand and commercial banks and finance companies for implementing the PLS paradigm on the other.

10. **Yusoff and Wilson (2009)** in their study "The Stability of Deposits in the Interest-Based and Interest-Free Banking System in Malaysia" examined the stability and the core factors that had an effect on the deposits of banking sector. It is highly important to note that interest-free based banking and interest-based banking offer deposit facilities which rely on profit-sharing instead of interest.

    The researchers used the Ordinary Least Square (OLS) econometric method of regression to measure the fore factors that had an effect on the Islamic and conventional bank deposits. This study was conducted in the period (1983 – 2001). They conducted five equations to clarify the relationship between the variables in econometric model. These equations were the Islamic bank profit sharing deposits equation, the conventional interest based deposits equation, the equation to test the correlation between profit-sharing and interest-based deposits and monetary base, and the equation of the velocity of the profit-sharing and interest-based deposits.

    The researchers came up with the conclusion that the GDP (Gross Domestic Product), profit share, consumer price index were key factors in improving the efficiency and growth of the Islamic deposits. Since the

profits on deposits for the conventional banks were not based on the profit-loss sharing, it was really worthy to consider the Islamic bank which is based on the bank profitability. To this effect, this research suggests that Shariah complaint deposits are more stable than their conventional equivalence.

11. **Widagdo and Ika (2008)** in their study "The Interest Prohibition and Financial Performance of Islamic Banks: Indonesian Evidence", examined the major difference in financial performance of Islamic banks in two periods: the first period was between 2002 – 2003 that was before Fatwa (released from Indonesia Ulma Council) and other period was after Fatwa 2004 – 2005. The study used financial ratios, such as profitability, liquidity, risk and solvency, and efficiency. The results showed that there was no statistically difference in financial performance of Islamic banks in the period before and after Fatwa.

12. **Mokhtar et al (2007)** in their study "Technical and Cost Efficiency of Islamic Banking in Malaysia", examined the efficiency of Islamic institutions in Malaysia and measure their technical and cost efficiency. The study used 288 panel data from annual reports of twenty Islamic windows; two full-fledged Islamic banks and twenty conventional banks in the period (1997 – 2003). They analyzed these data using (DEA). The results showed that the average efficiency of the overall Islamic banking

industry increased during the survey period, and revealed that the full-fledged Islamic banks were more efficient than the Islamic windows, and the efficiency level of Islamic banking was less than that of conventional banks.

13. **Yusoff and Wilson (2005)** in their study "An Econometric Analysis of Conventional and Islamic Bank Deposits in Malaysia" accentuated on the key factors influencing Islamic and conventional deposits in Malaysia's banking system. Five behavioral equations and three identities were conducted in their study.

The researchers tested the hypothesis of the effect of monetary instruments on the stability of Islamic banks and compared it with that of the conventional banks. The study tested the following hypotheses: (a) That Islamic bank deposits (profit sharing Mudarabah) were more stable than conventional deposits (interest-based) (b) That the correlation between Islamic bank deposits and the monetary-based demand function was stronger than that in the conventional deposits (C) and that the velocity of the Islamic bank deposits was more stable than of conventional bank deposits.

The researchers tested these hypotheses through five equations to clarify the relationship between the variables in econometric model. These equations were the Islamic bank profit sharing deposits equation, the

conventional interest based deposits equation, the equation to test the correlation between profit-sharing and interest-based deposits and monetary-based, and the equation of the velocity of the profit-sharing and interest-based deposits.

The result of their research came up with the conclusion that the real Gross Domestic Product (GDP), the interest rate, the consumer price index and the conventional deposits were key factors affect the changes in the conventional deposits. That implied that the total amount of conventional deposits was affected by the gross domestic product and it also showed that the real Gross Domestic Product (GDP), the profit share (rate on return on deposits) and consumer price index were key factors affect the change in the Islamic time deposits and Islamic investment deposits.

14. **Kaleem and Md Isa (2003)** in their study "Casual Relationship between Islamic and Conventional Banking Instruments in Malaysia" examined and analyzed the extent of substitutability between Islamic and conventional banking deposit returns. They tested the hypothesis that "If that management of Islamic banking in Malaysia believes that its depositors attain the same attitudes of profit maximization, interest rates will continue to affect the Islamic rate of returns as long as Islamic banking does not attain the certain proportion of total banking deposits

and assets in a country”. The data used were Islamic and conventional term deposit returns for commercial banks, finance companies and merchant banks in Malaysia for the period (1994-2002). They accentuated on the test of this hypothesis by using Granger Causality test to investigate relationships between Islamic and conventional deposit returns under different periods. The results showed that the conventional term deposit return causes Islamic term deposit returns (TDRs), and they found a significant competition between Islamic and conventional TDRs series in case of finance companies and merchant banks. The overall results concluded that Islamic banking considers interest rates before adjusting its deposits returns.

15. **Samad and Hassan (2000)** highlighted "the Performance of Malaysian Islamic Bank during (1984-1997)” by evaluating the inter-temporal and inter-bank performance profitability, liquidity, risk and solvency, and community involvement of an Islamic bank (Bank Islam Malaysia Berhad (BIMB). The study was inter-temporal in a sense that it compared the performance of BIMB between the two time periods (1984-1989) and (1990-1997). The study compared BIMB with group of eight conventional banks. Using financial ratios to measure these performance and F-test and T-test to determine their significance, the results showed that BIMB make statistically significance improvements in profitability.

In contrast, this improvement when compared to conventional banks was found that it was not making much progress. It was found that BIMB was less effective when compared to conventional banks. Moreover, it was proved that BIMB was less profitable and more liquid when compared to conventional banks.

16. **Haron and Ahmad (2000)** in their study "The Effects of Conventional Interest Rates and Rate of Profit on Funds Deposited with Islamic Banking System in Malaysia" analyzed the strength of relationship between the deposits of Islamic banks and its rate of return on savings and investment deposit facilities. They measured whether the rates of interest available at conventional banks had a direct influence on the level of returns of deposits of Islamic banks in Malaysia. The study used Adaptive Expectation Model (AEM) to measure the effects of rate of profit offered by Islamic banks on the level of deposits placed by their customers. The results showed that customers who place their deposits at saving and investment account were guided by profit motive. There was a negative relationship between the interest rate of conventional banks and the amount deposited in interest-free deposit facilities because Muslims should be guided by Islamic doctrines when making their economic decisions.

3.3 Significance of this Study Over Previous Studies

This is study is regarded to be the first in Jordan for it has taken the extent of applying profit-loss sharing paradigm at the two Islamic banks operating in Jordan. Previous studies, however, focused on profitability, efficiency and productivity. This study also clarifies whether Islamic banks in Jordan are actual interest-free based system which applies the principles of Islamic Shariah in their transactions. It combines between financial banking principles and Islamic sciences.

Chapter Four
Data and Methodology

4.1 Introduction

This chapter focuses on the methodology of the study, research questions, calculations, techniques, description of analytical methods, subjects, materials, and data collection instruments along with data collection procedures.

4.2 The Data

The data that need to be tested in this study are aimed at applying of profit and loss sharing paradigm at the Islamic banks in terms of the average of the Islamic rate from investments on deposits for those banks and of the average interest rate and on the deposits at traditional banks, and other economic variables such as Gross Domestic Product, foreign grants and capital expenditure.

4.2.1 Population of the Study

The population of the study include of all banks registered in the Central Bank of Jordan that consists of 26 banks, 13 of which are local commercial banks, 4 are Islamic banks (three local and one international), and 9 are foreign banks (Source: Central Bank of Jordan).

4.2.2 Sample of the Study

A study sample was taken from two local Islamic banks in Jordan: Jordan Islamic Bank (JIB) and Islamic International Arabic Bank (IIAB) since these

banks have the data needed for this study. Since the size of the data is only for two Islamic banks and which will be compared in terms of the weighted average with the traditional banks, some other data were added from other four banks. Those data are similar in size to those of the Islamic banks. The traditional banks are Jordan Ahli Bank (JAhB), Jordan Kuwait Bank (JKB), Bank of Jordan (BOJ) and Cairo Amman Bank (CAB). These banks were chosen since they are quite close in total assets to Islamic banks in this study. Data obtained from those banks were taken from annual reports.

4.2.3 Sources of Data

This study based on secondary sources including data related to the average of investment rate for Islamic banks in Jordan and the interest rate for traditional banks during the period of (2000 – 2013). It is the period per which these reports are found available and published by local banks in the annual reports available in Amman Stock Exchange.

As for the Islamic banks, Islamic investment rate on deposits was obtained from annual reports during the period (2000 – 2013) of those two banks. For the traditional banks, the weighted average deposit rates on commercial banks during the period (2000 – 2013) were obtained from the statistical reports published in the Central Bank of Jordan. To get the deposit rates for these commercial banks, we divided total deposits by debt interest rate. These data represent interest rates on deposits yearly since they are obtained yearly. To be

more accurate in testing those data, other variables were added, such as the GDP (Gross National Product) in Jordan for the period 2013, the size of the foreign grants for Jordan for the period 2013, and the size of capital expenditure for Jordanian governments for the period (2000- 2013). (All data sources are from annual reports published in the Central Bank of Jordan).

4.2.4 Hypothesis of the Study

The study will test the following null hypotheses:

Hypothesis 1: Are the changes in the Islamic investment rate not causing the conventional deposit rate to change?

Hypothesis 2: Are the changes in the Jordan Islamic bank investment rate not causing the conventional deposit rate to change?

Hypothesis 3: Are the changes in the Islamic international Arab bank investment rate not causing the conventional deposit rate to change.

Hypothesis 4: Are the changes in the Jordan Islamic bank investment rate not causing the Jordan Kuwait Bank deposit rate to change.

Hypothesis 5: Are the changes in the Islamic international Arab bank investment rate not causing the Jordan Ahli Bank deposit rate to change.

4.3 The Model of the Study

This study is a diagnostic and analytical study based on examining the extent of applying PLS paradigm in Islamic banks in Jordan.

The data, collected throughout the Central Bank of Jordan, consists of interest deposit rates in conventional banks and Islamic investment rates in Islamic banks in Jordan during the period 2003 – 2013. The aim is to answer the following questions:

1- Does the change in the conventional deposit rate cause the Islamic investment rate to change?
2- Does the change in the Islamic investment rate cause the conventional deposit rate to change?

In order to test the applicability of PLS paradigm in Jordanian Islamic banks, we follow Chong & Ming (2009). To determine the dependent and independent variables, we apply the Bivariate Granger Causality Test for both research questions mentioned above. Then, unit roots and co-integrated tests will be carried out to ascertain the relations are not accidental.

Following Chong & Ming (2009), unit root tests will be based on the standard Augmented Dickey Fuller (ADF) and Philips Perron (PP) procedures. The co-integration test will be done using the Johansen procedure. Once the co-

integration between the two time series is established, then, we will estimate their long-term relation and short-term dynamics on a maturity-matched basis.

The long-term relationship between two time-series variables is modelled as follows:

$$yt=\alpha_0+\alpha_1 xt+\varepsilon t \quad (1)$$

Where yt represents the endogenous variables (various Islamic investment rates), xt denotes the exogenous variable (corresponding conventional deposit rates), and εt is the disturbance term. The degree of pass-through in the long run, α_1, measures the extent to which a change in the independent variable gets reflected in the dependent variable. The long-run pass-through is considered complete when α_1 is equal to one and incomplete when it is less than one.

Secondly, we will follow Chong & Ming (2009) error-correction formula to examine the short-term dynamics:

$$\Delta yt=\beta 1\Delta xt+\beta 2(yt-1-\alpha 0-\alpha 1xt-1)+vt \quad (2)$$

Where Δ denotes the first difference, $\beta 1$ measures the short-term pass-through rate, and νt is the error term. $\hat{\varepsilon} t-1=(yt-1-\alpha 0-\alpha 1xt-1)$, which is the residual term associated with the long-term relation given by Eq. (1), represents the extent of disequilibrium at time $(t-1)$. β_2. Therefore, captures the error-correction adjustment speed when the rates are away from their equilibrium level. In the mean-reverting case, the sign of β_2 is expected to be negative. Also,

following Hendry, (1995) and Chong & Ming (2009), the mean adjustment lag of a complete pass-through can be calculated using the following equation:

$$MAL = (1-\beta_1)/\beta_2. \quad (3)$$

Unit root analysis will measure the data stationary or not stationary. It means there are unit root for data used to insure that variables of regression model are stationary by differencing them. Their model is nonparametric approach with respect to nuisance parameters and allow for a very wide class of weakly dependent and heterogeneously distributed data. The model gives a simple test for a unit root in univariate time series against stationary and trend alternatives (Phillips and perron, 1988).

The definitions for the various variables used in this study are summarized in Table (4-1):

Table (4-1)

Variables Definitions

Variable	Definition
COBK	Commercial banks' deposit interest rate on 12-month deposits (weighted average)
ISBK	Islamic banks' investment rate on 12-month mudarabah deposits (weighted average)
JIBK	Jordan Islamic Bank investment rate on mudarabah deposits
IIABK	Islamic International Arab Bank investment rate on mudarabah deposits
JOBK	Bank of Jordan interest rate on deposits
AHLIBK	Ahli Bank of Jordan interest rate on deposits
JKBK	Jordan Kuwait Bank interest rate on deposits
CAMBK	Cairo Amman Bank interest rate on deposits
GDP	Gross Domestic Product, Market Prices
GRANTS	Foreign Grants to Government
KEXP	Government Capital Expenditure

Table (4-2) provides the descriptive statistics for the study data. The summary statistics, in particular, shows that the Islamic investment rates are, on average, significantly higher than the conventional deposit interest rates for both weighted average and single rate.

Table (4-2)

Descriptive Statistics of Interest rates, Investment rates and Economic Variables

Variable Name	Minimum	Maximum	Mean	Std. Deviation	Variance
COBK*	2.49	6.55	4.36	1.19	1.41
ISBK*	3.20	5.37	4.47	0.67	0.44
JIBK*	3.35	5.70	4.64	0.74	0.54
IIABK*	2.58	6.41	3.99	1.19	1.40
JOBK*	1.41	4.94	2.65	0.97	0.94
AhliBK*	1.92	7.76	3.86	1.58	2.51
JKBK*	2.40	7.31	4.22	1.65	2.72
CAMBK*	1.15	4.83	2.78	1.04	1.09
GDP**	5999	23852	13126	6329	40060
Grants**	305	1215	561	272	73949
KExp**	336	1445	790	292	85532

*Percentage.

**Million JDs.

Furthermore, the volatility and the minimum–maximum range of Islamic investment rates are significantly lower than those of conventional deposit interest rates. Possible interpretation for these results is that the Islamic deposits, based on the PLS theory, should have higher risks than conventional deposits on commercial banks. These results are consistent with main financial rule the higher return because Islamic banks implement PLS paradigm and maybe bear more risk then it will be high return.

Table (4-3) provides the results of correlation matrix. The summary of Pearson correlation, in particular, shows that the Islamic investment rates are not correlated with the conventional deposit interest rates and the same result for Jordan Islamic Bank, but there is a significant positive correlation between the

Islamic investment rate for Islamic International Bank with conventional deposit interest rates for both weighted average and single rate.

Table (4-3)

Correlation Matrix (Islamic Investment Rates, Commercial Deposit Rates, Economic Variables)

variable	cobk	isbk	jibk	iiabk	jobk	ahlibk	jkbk	cambk	GDP	Grants	Kexp
Cobk	1	.386	.148	.796**	.790**	.780**	.826**	.879**	-.038	-.488	-.201
Isbk	.386	1	.925**	.503	.224	.283	.528	.064	-.464	-.353	-.008
Jibk	.148	.925**	1	.151	-.010	.012	.264	-.134	-.259	-.244	.299
Iiabk	.796**	.503	.151	1	.744**	.827**	.862**	.625*	-.546*	-.457	-.603*
Jobk	.790**	.224	-.010	.744**	1	.967**	.917**	.854**	-.402	-.392	-.430
ahlibk	.780**	.283	.012	.827**	.967**	1	.918**	.811**	-.498	-.368	-.477
Jkbk	.826**	.528	.264	.862**	.917**	.918**	1	.739**	-.527	-.467	-.426
cambk	.879**	.064	-.134	.625*	.854**	.811**	.739**	1	.011	-.420	-.248
GDP	-.038	-.464	-.259	-.546*	-.402	-.498	-.527	.011	1	.104	.678**
Grants	-.488	-.353	-.244	-.457	-.392	-.368	-.467	-.420	.104	1	.157
Kexp	-.201	-.008	.299	-.603*	-.430	-.477	-.426	-.248	.678**	.157	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Chapter Five
Data Analysis and Results

5.1 Introduction

This chapter examines the extent of implementation of PLS paradigm in Islamic banks in Jordan by analyzing the data gathered for period (2000 – 2013). The empirical work uses data available on annual reports and financial statements published by banks and the Central Bank of Jordan. We will test the hypotheses of the study involved in implementing PLS paradigm in Islamic banks in Jordan, and then show the results and comment on the results. Finally, we will comes up with the conclusions.

5.2 Testing the Study Hypotheses

In this section, we will test the extent of implementing of PLS paradigm by Islamic banks in Jordan: Jordan Islamic Bank and Islamic International Arab Bank. To answer the study questions and testing hypotheses, unit root tests will be based on Philips Perron (PP) procedures.

To determine if changes in the conventional deposit rates cause adjustments in the Islamic investment deposit rates and whether changes in Islamic investment deposit rates cause changes in the conventional deposit rates. Table (5-1) reports the results of the Philips Perron (PP) test and unit root test, the table show the test statistics.

Table (5-1)

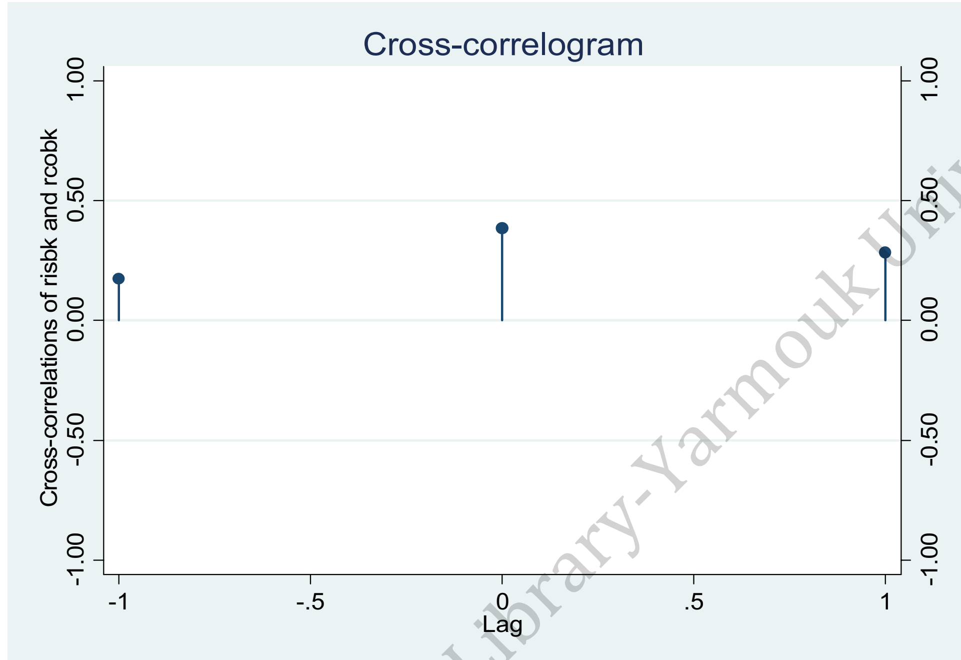
Unit Root Test

Variable name	Z (rho)	Z (t)
COBK	-8.261	-2.445
ISBK	-4.999	-1.541
JIBK	-5.895	-1.759
IIABK	-7.086	-2.497
JOBK	-6.173	-2.768
AhliBK	-6.262	-3.074
JKBK	-5.889	-2.121
CAMBK	-6.897	-2.288
GDP	0.962	1.714
Grants	-13.319	-4.082
KExp	-5.263	-2.028

Figures (5-1), (5-2), and (5-3) shows the results of cross-correlogram test, performed using Stata ®. Figure (5-1) shows the cross-correlogram between Islamic investment rates (r_{isbk}) and commercial deposit rates (r_{cobk}), figure (5-2) shows the cross-correlogram between Jordan Islamic bank (r_{jibk}) and Jordan Kuwait bank (r_{jkbk}) and figure (5-3) shows the cross-correlogram between Islamic international Arab bank (r_{iiabk}) and Jordan Ahli bank (r_{ahlibk}).

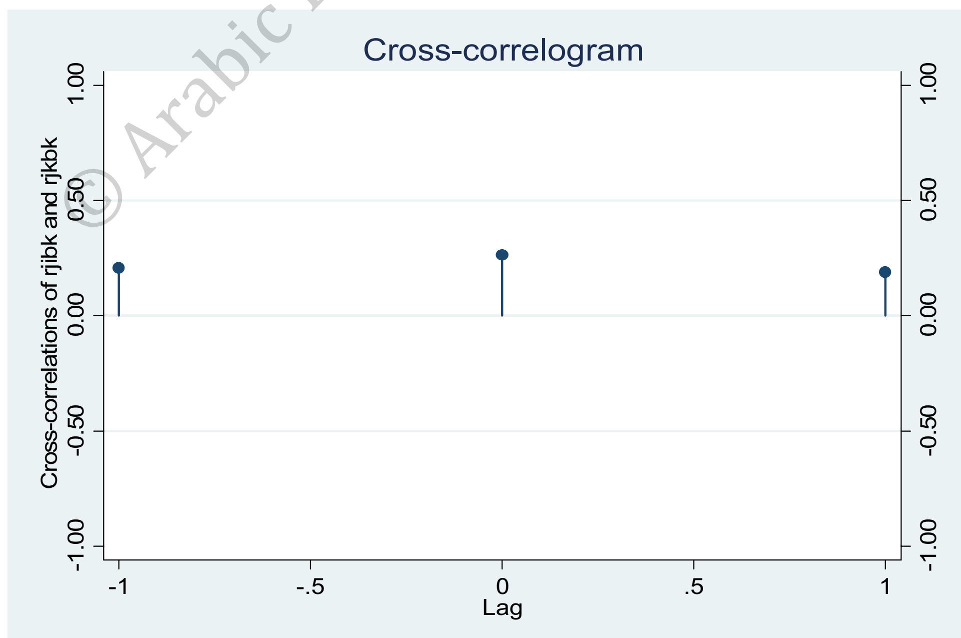
Graph (5-1)

Cross – correlation with lag 1, Islamic banks in Jordan and commercial banks in Jordan.



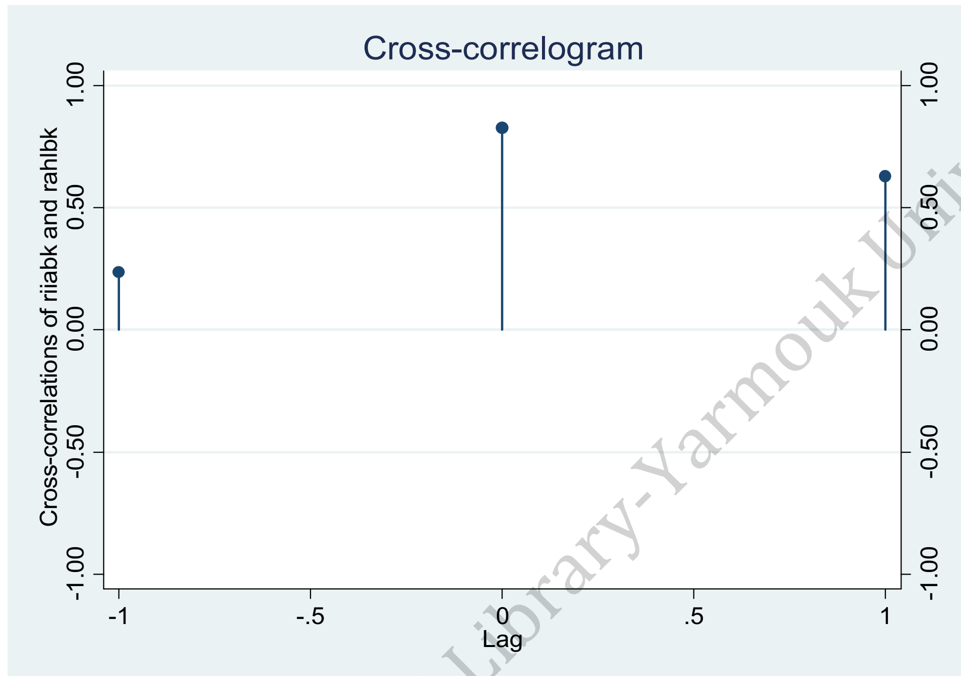
Graph (5-2)

Cross – correlation with lag 1, Jordan Islamic bank and Jordan Kuwait bank.



Graph (5-3)

Cross – correlation with lag 1, Islamic international Arab bank and Jordan ahli bank..



5.2.1 Testing the Co-integration of Islamic Investment Rates in Islamic Banks in Jordan with Commercial Banks Rate, GDP, Grants and Capital Expenditure.

The first null hypothesis is that changes in the Islamic investment rate do not cause the conventional deposit rate to change.

This hypothesis will be tested by the following model:

risbk = f(rcobk, GDP, Grants. Kexp) **(1)**

Table (5-2) reports the Stata ® test. As follows:

Table (5-2)

Regression Results for Islamic Banks in Jordan

risbk	Coefficient	Std. Error	t	P>|t|	Beta
rcobk	0.2324	0.1514	1.53	0.159	0.4150
GDP	-0.0001	0.0000	-4.17	0.002*	**-0.9270**
Grants	-0.0004	0.0007	-0.62	0.550	-0.1675
Kexp	0.0017	0.0006	2.90	0.018**	**0.7307**
Intercept	3.6512	1.0792	3.38	0.008	--

Prob > F= 0.0172, R-squared= 0.6434, Root MSE = 0.47682
*significant at the 0.01 level.
**significant at the 0.05 level.

Table (5-2) shows that the regression model (independent Variables: rcobk, GDP, Grants, Kexp) explain 64.34% of the dependent variable risbk, and significant at 5% level of significance or less. However, only two independent variables (GDP, Kexp) are significant in explaining the dependent variable (risbk) at 5% percent level or less. The key variable rcobk is not significant at all. Therefore, we can conclude that the commercial deposit rates and foreign grants for government have no significant effect on Islamic investment rates on Islamic Jordanian banks. Thus, null hypothesis will be accepted.

5.2.2 Testing the Co-integration of Investment Rate of Jordan Islamic Bank with Commercial Banks Rate, GDP, Grants and Capital Expenditure.

The second null hypothesis is that changes in the Jordan Islamic bank investment rate do not cause the conventional deposit rate to change.

This hypothesis will be tested by the following model:

rjibk = f(rcobk, GDP, Grants. Kexp) **(2)**

Table (5-3) reports the Stata ® test. As follows:

Table (5-3)

Regression Results for Jordan Islamic Bank

rjibk	Coefficient	Std. Error	t	P>|t|	Beta
rcobk	0.1331	0.1858	0.72	0.492	0.2141
GDP	-0.0001	0.0000	-3.46	0.007*	**-0.8955**
Grants	-0.0005	0.0009	-0.64	0.540	-0.2003
Kexp	0.0025	0.0006	4.13	0.003*	**0.9811**
Intercept	3.7759	1.3326	2.83	0.020	--

Prob > F = 0.0163, R-squared = 0.6062, Root MSE= 0.55651
*significant at the 0.01 level.
**significant at the 0.05 level.

Table (5-3) shows that the regression model (independent Variables: rcobk, GDP, Grants, Kexp) explain 60.62% of the dependent variable rjibk, and significant at 5% level of significance or less. However, only two independent variables (GDP, Kexp) are significant in explaining the dependent variable (rjibk) at 5% percent level or less. The key variable rcobk is not significant at all. Therefore, we can conclude that the commercial deposit rates and foreign grants for government have no significant effect the on Islamic investment rates for Jordan Islamic Bank. Thus, null hypothesis will be accepted.

5.2.3 Testing the Co-integration of Investment Rate of Islamic International Arab bank with Commercial Banks Rate, GDP, Grants and Capital Expenditure.

The third null hypothesis is that changes in the Islamic international Arab bank investment rate do not cause the conventional deposit rate to change.

This hypothesis will be tested by the following model:

riiabk = f(rcobk, GDP, Grants. Kexp) (3)

Table (5-4) reports the Stata ® test. As follows:

Table (5-4)

Regression Results for Islamic International Arab Bank

riiabk	Coefficient	Std. Error	T	P>|t|	Beta
rcobk	.7258838	.0975885	7.44	0.000*	**.7265954**
GDP	-.000072	.0000182	-3.96	0.003*	**-.384634**
Grants	-.0001438	.0003956	-0.36	0.725	-.0329918
Kexp	-.0007744	.0004677	-1.66	0.132	-.1910547
Intercept	2.4618	0.8074	3.05	0.014	--

Prob > F= 0.0000, R-squared = 0.9180, Root MSE = 0 .408

*significant at the 0.01 level.

Table (5-4) shows that the regression model (independent Variables: rcobk, GDP, Grants, Kexp) explain 91.80% of the dependent variable riiabk, and significant at 5% level of significance or less. However, the key variable rcobk and GDP are significant in explaining the dependent variable (riiabk) at 1% percent level or less. The variables (Grants, Kexp) are not significant at all.

Therefore, we can conclude that the commercial deposit rates and GDP have significant effect the on Islamic investment rates for Islamic International Arab Bank, and will reject the null hypothesis.

5.2.4 Testing the Co-integration of Investment Rate of Jordan Islamic Bank with Jordan Kuwait Bank Deposit Rate, GDP, Grants and Capital Expenditure.

The fourth null hypothesis is that changes in the Jordan Islamic bank investment rate do not cause the Jordan Kuwait Bank deposit rate to change.

This hypothesis will be tested by the following model:

rjibk = f(rjkbk, GDP, Grants. Kexp) **(4)**

Table (5-5) reports the Stata ® test. As follows:

Table (5-5)

Regression Results for Jordan Islamic Bank

rjibk	Coefficient	Std. Error	t	P>|t|	Beta
rjkbk	0.0540	0.1532	0.35	0.733	0.1206
GDP	-0.0001	0.0000	-2.69	0.025*	**-0.8032**
Grants	-0.0007	0.0009	-0.78	0.456	-0.2507
Kexp	0.0024	0.0005	4.47	0.002*	**0.9347**
Intercept	4.1570	1.4149	2.94	0.017	--

Prob > F= 0.0128, R-squared = 0.5808, Root MSE = 0.57418

*significant at the 0.01 level.
**significant at the 0.05 level.

Table (5-5) shows that the regression model (independent Variables: rjkbk, GDP, Grants, Kexp) explain 58.08% of the dependent variable rjibk, and

significant at 5% level of significance or less. However, only two independent variables (GDP, Kexp) are significant in explaining the dependent variable (rjibk) at 5% percent level or less. The key variable rcobk is not significant at all. Therefore, we can conclude that the Jordan Kuwait Bank deposit and foreign grants for government have no significant effect on the Islamic investment rates for Jordan Islamic Bank. Thus, null hypothesis will be accepted.

5.2.5 Testing the Co-integration of Investment Rate of Islamic International Arab Bank with Jordan Ahli Bank Deposit Rate, GDP, Grants and Capital Expenditure.

The fifth null hypothesis is that changes in the Islamic international Arab bank investment rate do not cause the Jordan Ahli Bank deposit rate to change.

This hypothesis will be tested by the following model:

riiabk = f(rahlibk, GDP, Grants. Kexp) **(5)**

Table (5-6) reports the Stata ® test. As follows:

Table (5-6)

Regression Results for Islamic International Arab Bank

riiabk	Coefficient	Std. Error	t	P>|t|	Beta
rahlibk	0.4601	0.1085	4.24	0.002*	**0.6143**
GDP	-9.95e-06	0.0000	-0.32	0.757	-0.0531
Grants	-0.0008	0.0006	-1.34	0.214	-0.1875
Kexp	-0.0010	0.0009	-1.13	0.289	-0.2450
Intercept	3.5872	1.1020	3.26	0.010	--

Prob > F= 0.0001, R-squared= 0.7703, Root MSE = 0 .68287
*significant at the 0.01 level.

Table (5-6) shows that the regression model (independent Variables: rahlibk, GDP, Grants, Kexp) explain 77.03% of the dependent variable riiabk, and significant at 5% level of significance or less. However, the key variable rahlibk is significant in explaining the dependent variable (riiabk) at 1% percent level or less. The variables (GDP, Grants, Kexp) are not significant at all. Therefore, we can conclude that the Jordan Ahli bank deposit rates have a significant effect on the Islamic investment rates for Islamic international Arab bank. Thus, the null hypothesis will be accepted.

Chapter Six
Summary and Recommendations

6.1 Introduction

This chapter summarizes the results of study that examines the extent of implementation of PLS paradigm in Islamic banks in Jordan and interpretation of data results that analyzed in previous chapter, and shows recommendations for Islamic banks in Jordan, Jordan Islamic bank, Islamic International Arab Bank, commercial banks and central bank of Jordan.

6.2 Summary

This study is aimed at showing whether Islamic banks in Jordan are implementing Profit and Loss sharing paradigm or not. To answer this question, Pillips Perron (PP) procedures were used in this study.

The results for the first null hypothesis are that changes in the Islamic investment rates do not cause the conventional deposit rate to change. The key variable rcobk is not significant. Thus, null hypothesis is accepted.The results for second null hypothesis are those changes in the Jordan Islamic bank investment rates do not cause the conventional deposit rate to change. The key variable rcobk is not significant. Thus, null hypothesis is accepted. The results of third null hypothesis are that changes in the Islamic International Arab bank investment rates do not cause the conventional deposit rate to change. As a result, the commercial deposit rates and the GDP have a significant effect on the

rates for Islamic International Arab Bank. Thus, the null hypothesis will be rejected.

The results for the fourth null hypothesis is that changes in the Jordan Islamic bank investment rates do not cause the Jordan Kuwait Bank deposit rate to change. That is to say that the Jordan Kuwait Bank deposit and foreign grants for government have no significant effect on the Islamic investment rates for Jordan Islamic Bank. Thus, the null hypothesis will be accepted. The results for the last null hypothesis is that changes in the Islamic international Arab bank investment rates do not cause the Jordan Ahli Bank deposit rate to change. That shows that the variables (GDP, Grants, Kexp) are not significant at all. Since the Jordan Ahli bank deposit rates have a significant effect on the Islamic investment rates for Islamic international Arab bank. Thus, the null hypothesis will be accepted.

The regression analysis shows that there is no significant effect of commercial deposit rates on Islamic investment rates. The same results for Jordan Islamic Bank show that there is no significant effect of commercial deposit rates and Jordan Kuwait Bank, but the results for Islamic International Arab Bank show that there is significant effect for both commercial deposit rates and Jordan Ahli Bank on Islamic investment rate for Islamic International Arab Bank.

The possible reason for these results of not adaption PLS paradigm of Islamic International Arab Bank because this bank depends on Ijara financing contracts

more than Mudarabah financing, and Ijara finance associated with market rate of return, and have semi annual investment rate.

6.3 Recommendations

This study highly recommends the following:

- Islamic banks should set some modern strategies in their banking products and services. They should work to provide a variety of services in order to increase their market share in the banking sector in Jordan.
- Jordan Islamic Bank should keep on applying the PLS paradigm in its banking services through providing banking products that go along with the Islamic Shariah and corporate governors.
- Islamic International Arab Bank should apply the PLS paradigm in its banking services and should provide a variety of fund services which are not related to the average of markets income. The bank should also use its fund used for Musharakah and Mudarbah and should find positive sings to specify the profit apart from the average market rate and reduce its banking sector related to the risks of the market rate.
- Commercial banks should use their funds in setting modern strategies to increase the fund resources and to apply the corporate governors. They should also look for new products to increase their competitiveness through opening new channels of Islamic finances.

- The Central Bank of Jordan should set special legislations, laws and monitoring systems which control the practices of Islamic banks. It should consider the privacy of the Islamic banks when issuing instructions since these banks are mainly based on the PLS paradigm that go with the Islamic Shariah principles.

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الملخص

يعتبر القطاع المصرفي من اهم القطاعات المالية في الاقتصاد ، وتعد البنوك الاسلامية جزءا اساسيا من الجهاز المصرفي والذي اثبت قدرته على المنافسة في السوق المصرفي الاردني من حيث تقديم المنتجات والخدمات المصرفية المتوافقة مع احكام ومبادئ الشريعة الاسلامية ، ويعتبر مدى تطبيق البنوك الاسلامية لمبدأ المشاركة من الامور المهمة التي يتوجب دراستها ، والهدف الاساسي من هذه الدراسة هو الوقوف على مدى تطبيق مبدأ المشاركة في الربح و الخسارة لدى البنوك الاسلامية في الاردن، حيث تم اختبار بيانات الدراسة المتعلقة بمعدل العائد على الاستثمار لودائع البنوك الاسلامية، و نسبة الفائدة على ودائع البنوك التجارية والمتغيرات الاقتصادية وهي الناتج القومي والمحلي ، والمساعدات الخارجية للحكومة الاردنية وحجم الانفاق الحكومي في الاردن ، حيث تم الحصول على البيانات للفترة 2000 – 2013 ، وتم اجراء اختبارات البيانات باستخدام نموذج Philips Perron. و تظهر النتائج ان البنوك الاسلامية في الاردن تقوم بتطبيق مبدأ المشاركة في الربح والخسارة.

الكلمات المفتاحية: مبدأ المشاركة في الربح والخسارة، معدل عائد الاستثمار الاسلامي، نسبة الفائدة على الودائع، الاردن، المضاربة، المشاركة.